

### III. REMARKS

1. Claims 17-32, 34-38 and 40-56 remain in the application.
2. Applicants respectfully submit that claims 17-32, 34-38, 40-47 and 49-56 are patentable over the combination of Takahara et al. (US 5,381,158, "Takahara") and Kojima (US 6,236,398, "Kojima") under 35 USC 103(a).

The combination of Takahara and Kojima fails to disclose or suggest

determining the positions of a set of at least two alternatives on a virtual arcuate area surrounding an actual user on the basis of their direction with respect to the user so that the locations of the positions remain substantially the same with respect to the user irrespective of the location of the user;

recognizing a first movement of a body member of the user to a sector on the virtual arcuate area surrounding the user, the sector corresponding to a desired alternative;

recognizing a second movement in the sector corresponding to the desired alternative;

in response to the second movement, recognizing a selection of the desired alternative as completed; and

providing the recognized selection as an output,

wherein said sectors are separated by separating areas arranged to reduce selection errors.

as substantially recited by claims 17, 24, 45 and 52. Therefore, the combination of Takahara and Kojima fails to render claims 17-32, 34-38, 40-47 and 49-56 unpatentable.

Takahara fails to disclose a sector on the virtual arcuate area surrounding the user, the sector corresponding to a desired alternative. Nowhere in the Figures or description does Takahara disclose the use of a sector on the virtual arcuate area surrounding the user, nor does it disclose that a sector corresponds to a desired alternative. While several different embodiments were shown in Takahara's Figures and specification, not a single one describes the use of

sectors to represent an alternative. In Figures 2, 3, 4, 5, 6, and 6a-6b, et al., it is clear that Takahara merely discloses the manipulation of capsule images on the screen representing data sets. (See col. 7, ln. 41-45). This is not a sector as disclosed by the Applicants. The word sector is defined by the Webster's New Twentieth Century Dictionary as "a part of a circle bounded by any two radii and the arc included between them". (See attached page.) The capsule images in Takahara do not fall under this definition of "sector" – nowhere can it be said that the capsule images are parts of a circle bounded by two radii and the arc between them. The capsule images disclosed in Takahara are merely a number discrete icons that represent a data set.

Similarly, in Kojima, the media selecting device described does not disclose a sector on the virtual arcuate area surrounding the user, the sector corresponding to a desired alternative. The media selecting device clearly describe the selection of "a plurality of three-dimensional icons existing in the same hierarchical layer". (See claim 1 in Kojima). Nowhere is it disclosed in Kojima the selection of a sector to represent a desired alternative. Rather, it is always described as selecting "icons" corresponding to a desired alternative within the same hierarchy. Thus, Kojima also does not use sectors, but, like Takahara, rather uses a system of discrete icons to represent data and choices within hierarchy.

Neither Takahara nor Kojima, together nor individually, are capable of providing "a sector on the virtual arcuate area surrounding the user, the sector corresponding to a desired alternative".

For substantially the same reasons, neither Takahara nor Kojima disclose or teach sectors that are separated by separating areas arranged to reduce selection areas.

Nor does the combination of Takahara and Kojima disclose a set of at least two alternatives on a virtual arcuate area surrounding an actual user on the basis of their direction with respect to the user so that the locations of the position remain substantially the same with respect to the user irrespective of the location of the user.

Takahara discloses a system where a user is able to manipulate discrete capsule images in virtual space. The system discloses the tracking of data gloves and the tracking of head movements by means of a headband. However, in Kojima, the disclosed embodiment clearly show that the perspective of the user is fixed. (See Figure 3A, 4A, et al.). Kojima discloses that the invention comprises the user being surrounded by a lower round table and an upper round table where the use of a turning knob of the media selecting device corresponds to a rotation

amount of the tables. (See col. 6, ln. 27-30). A combination of Kojima with its rotating tables and fixed perspectives with Takahara with its headtracking display would likely result in either a head-tracking display with a fixed perspective, or a head-tracking display that would also be tracked with the rotation of a table, causing only the same alternative to be displayed at any given time. Both possible combinations would largely be nonfunctional. It is improper to combine references where the references teach away from their combination. In re Grasselli, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983).

Thus, claims 17, 24, 45 and 52 are patentable under 35 USC §103(a). Claims 18-23, 25-32, 34-44, 46-51 and 53-56 are also patentable at least by reason of their respective dependencies.

Further, claims 20 and 27 are also patentable over Takahara and Kojima. Claims 20 and 27 recite recognizing the second movement contactlessly. This is not disclosed or taught in either Takahara or Kojima.

Takahara discloses the use of devices to track the movements of the user. In Figure 1, the user is able to select the capsule images by means of tracking gloves 92L and 92R. (See also Figure 19). In other embodiments, the user is able to manipulate capsule images through the use of other tracking tools such as a touch pen 141 (see Figure 21) or the use of lefthand and righthand mice (146 and 144, respectively) in order to make selections (see Figure 22). None of these means of selection can be considered "contactless". Indeed, the user is often in constant contact with the tracking devices disclosed in Takahara. The gloves must be constantly worn by the user to allow the user's hand movements to be tracked, and the pen and mice must constantly be used in order to facilitate the tracking of the user's hand movements with those devices. If the users were to indeed stop being in contact with either the tracking gloves (92L and 92R), the tracking pen (141) or the mice (144 and 146), then not only would recognizing a second movement be impossible, but also recognizing any movement whatsoever.

Kojima also fails to disclose the means of recognizing the second movement contactlessly. Kojima merely recites the use of a rotary disc type knob. (See col. 5, ln 19). Kojima teaches that in order to select an icon, the user must press a button of the rotary disc type knob. (See col 5, ln. 45). Unless the user possesses paranormal powers, the pressing of the button cannot be effectuated contactlessly and requires the direct contact of the user in order to be done. Thus, Kojima also fails to disclose the means of recognizing the second movement contactlessly.

For this further reason, claims 20 and 27 are patentable.

3. Applicants respectfully submit that claim 48 is patentable over the combination of Takahara, Kojima and Kumar et al. (US 6,624,833, "Kumar") under 35 USC 103(a).

The combination of Takahara, Kojima and Kumar fails to disclose or suggest where the device configured for recognizing is a shape tape.

The examiner properly recognized that neither Takahara nor Kojima disclosed the use of a shape tape as a device configured for recognizing. However, Kumar also fails to disclose a device configured for recognizing is a shape tape. The portion of Kumar cited by the Examiner states, in its entirety:

"Although FIG. 1 illustrates the operation of input interface system 10 in conjunction with a conventional desktop computer system 12, the system 10 can, of course be utilized with other types of information processing devices, such as portable or palmtop computers, workstations, personal digital assistants (PDAs), televisions, set-top boxes, etc. The term "computer" as used herein is intended to include these and other processor-based devices."


Kumar, col. 5, ln. 31-38. Emphasis added. It is clear that Kumar is discussing the use of processor-based information processing devices such as computers, PDAs, or other types of systems. Kumar does not disclose the use of shape tapes as processor-based information processing devices. Nowhere is it ever disclosed by the Applicant the use of a Shapetape to function as an information processing device. On the contrary, the Shapetape is merely a tape that recognises its position. It is a sensor and not an information processing device like a computer, a PDA, a workstation, a set-top box, or a portable computer.

Therefore, the combination of Takahara, Kojima and Kumar fails to render claim 48 unpatentable.

For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record, and are in proper form for allowance. Accordingly, favorable reconsideration and allowance is respectfully requested. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

The Commissioner is hereby authorized to charge payment for any fees associated with this communication or credit any over payment to Deposit Account No. 16-1350.

Respectfully submitted,

  
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